



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care



NATIONAL
GUIDELINE
CLEARINGHOUSE

General

Guideline Title

Guideline on perinatal oral health care.

Bibliographic Source(s)

Council on Clinical Affairs. Guideline on perinatal oral health care. Chicago (IL): American Academy of Pediatric Dentistry (AAPD); 2011. 6 p. [102 references]

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: American Academy of Pediatric Dentistry (AAPD). Guideline on perinatal oral health care. Chicago (IL): American Academy of Pediatric Dentistry (AAPD); 2009. 5 p.

Recommendations

Major Recommendations

Recommendations for Perinatal Oral Health

Oral health education: The perinatal period is an opportune time to educate and perform dental treatment on expectant mothers. Pregnancy offers an opportunity to educate women regarding oral health by providing a "teachable moment" in self-care and future child-care. Early intervention and counseling during the perinatal period from all health care providers (e.g., physicians, dentists, nurses) are essential to ensure good oral health for the mother and infant.

Oral hygiene: Toothbrushing with fluoridated toothpaste and flossing by the mother are important to help dislodge food and reduce bacterial plaque levels. Systematic literature reviews suggest an association between periodontal disease and an increased risk of adverse pregnancy outcomes, including preterm deliveries, low birth weight babies, and preeclampsia. Periodontal infections, which can be a reservoir for inflammatory mediators, can pose a threat to the placenta and fetus which can increase the likelihood of preterm delivery. Mothers with severe periodontitis have high levels of prostaglandin in their gingival crevicular fluid and blood. In turn, these increased levels of prostaglandins may be associated with uterine contractions leading to preterm deliveries. While some research shows that scaling and root planning during pregnancy can reduce the likelihood of preterm deliveries and low birth weight babies, a recent randomized controlled trial did not support that treatment of periodontal disease during pregnancy prevents preterm birth, fetal growth restriction, or preeclampsia. Regardless of the potential for improved oral health to improve pregnancy outcomes, the data on the relationship between maternal and child experience with dental caries is well established. Therefore, comprehensive dental services for pregnant women should be available so that, not only their own oral and general health is safeguarded, but also so that their children's caries risk is reduced.

The effects of pregnancy may negatively affect oral health behaviors among pregnant women. Nausea and vomiting may lead to avoidance of toothbrushing, resulting in an increased caries rate. For a pregnant woman experiencing frequent vomiting, rinsing with a cup of water containing a teaspoon of baking soda and waiting an hour before brushing can help minimize dental erosion. Using a fluoridated toothpaste, chewing sugarless or xylitol-containing gum, and eating small amounts of nutritious food throughout the day can help minimize their caries risk.

Diet: Important components of the mother's diet need to be discussed fully. A healthy diet is necessary to provide adequate amounts of nutrients for the mother-to-be and unborn child. Food cravings may lead to the consumption of foods that increase the mother's caries risk. The caries potential of the mother's diet (i.e., cariogenicity of certain foods, beverages, medicines), as well as its effect on her child, should be addressed. The frequency of consumption of cariogenic substances and resulting demineralization/remineralization process also are important discussion topics.

Fluoride: Using a fluoridated toothpaste and rinsing with an alcohol-free, over-the-counter mouth rinse containing 0.05% sodium fluoride once a day or 0.02% sodium fluoride rinse twice a day have been suggested to help reduce plaque levels and help promote enamel remineralization.

Professional oral health care: Routine professional dental care for the mother can help optimize her oral health. Every pregnant woman should have an oral evaluation, be counseled on proper oral hygiene, and be referred for preventive and therapeutic oral health care. It has been shown that maternal salivary levels of mutans streptococci (MS) are related significantly to MS colonization in plaque as well as dental caries in their children. Removal of active caries with subsequent restoration of the remaining tooth structure is important to suppress maternal MS reservoirs and has the potential to minimize the transfer of MS to the infant, thereby decreasing the infant's risk of developing early childhood caries (ECC). The safest time to perform dental treatment during pregnancy is in the second trimester, or the 14th–20th weeks. The risk of pregnancy loss is lower in the second trimester compared to that in the first trimester, and organogenesis is complete. Even though the second trimester is usually optimal, dental treatment can be accomplished safely at any time during pregnancy.

Treatment options may include diagnostic x-rays, dental prophylaxis, periodontal treatment, and restorations with the administration of local anesthetics containing epinephrine. Amalgam may be considered as a restorative material in pregnant women. There is no evidence that fetal exposure to mercury released from the mother's existing amalgam restorations causes any adverse effects. Since mercury vapor released during removal and placement of an amalgam restoration may be absorbed into the blood stream and cross the placental barrier, the use of rubber dam and high speed evacuation is recommended. Antibiotics and analgesics for treating infection and controlling pain may be administered. Acute conditions, such as pain and swelling, should be treated as soon as possible. Delay in necessary treatment could result in significant risk to the mother and indirectly to the fetus. The consequences of not treating an active infection during pregnancy outweigh the possible risks presented by most of the medications required for dental treatment. Due to patient positioning, comfort is a consideration for treatment during the third trimester. In these cases, elective treatment sometimes is best deferred until after delivery.

Delay of colonization: Reducing maternal MS reservoirs, avoiding or delaying MS transmission, and implementing preventive practices for the child can help delay the colonization process. Maternal MS reservoirs can be suppressed by dietary counseling, reducing the frequency of simple carbohydrate intake, applying topical chlorhexidine and/or fluoride, removing and restoring active caries, and chewing xylitol-containing chewing gum. Evidence suggests that the use of xylitol chewing gum (at least 2 or 3 times per day by the mother) has a significant impact on mother-child transmission of MS and decreasing the child's caries rate. Avoidance or delay of MS transmission can be accomplished by educating the mother or caregiver on behaviors that directly pass saliva to the child (e.g., sharing utensils or cups, cleaning a dropped pacifier by mouth). Routine preventive efforts should include toothbrushing, optimizing the child's fluoride exposure, and limiting the child's frequency of carbohydrate intake.

Additional Recommendations

The American Academy of Pediatric Dentistry (AAPD) recommends:

1. All primary health care professionals who serve pregnant women provide education on the etiology and prevention of early childhood caries. Oral health counseling and referral for a comprehensive oral examination and treatment during pregnancy is especially important for the mother.
2. The curriculum of all medical, nursing, and allied health professional programs include education in perinatal oral health, including the infectious etiology of early childhood caries, methods of oral health risk assessment, anticipatory guidance, and the need for early establishment of a dental home.
3. Parents/caregivers establish a dental home for infants by 12 months of age.
4. Legislators, policy makers and third party payors be educated about the benefits of perinatal intervention in order to support efforts that improve access to oral health care for pregnant women, including more frequent and comprehensive services.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Perinatal oral health
Dental caries

Guideline Category

Counseling

Evaluation

Prevention

Risk Assessment

Treatment

Clinical Specialty

Dentistry

Obstetrics and Gynecology

Pediatrics

Preventive Medicine

Intended Users

Advanced Practice Nurses

Allied Health Personnel

Dentists

Physician Assistants

Physicians

Guideline Objective(s)

To provide recommendations for perinatal oral health care, including caries risk assessment, anticipatory guidance, preventive strategies, and appropriate therapeutic interventions, to be followed by the stakeholders in perinatal and pediatric oral health

Target Population

- Pregnant women starting at 20th to 28th week of gestation
- Newborn children up to 4 weeks after birth

Interventions and Practices Considered

1. Comprehensive oral examination of expectant mother, including risk assessment for dental caries
2. Anticipatory guidance
 - Oral health education
 - Oral hygiene
 - Healthy diet
 - Use of a fluoridated toothpaste and mouth rinse
 - Professional oral health care including x-rays, removal of active caries, dental prophylaxis, periodontal treatment, and restorations
 - Preventive practices to delay colonization
3. Establishing a dental home for infants by 12 months of age

Major Outcomes Considered

- Caries rate in children
- Incidence of preventable oral/dental conditions or disease in children

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

This guideline is an update of the previous guideline adopted in 2009. The update is based on a review of the current dental and medical literature related to perinatal oral health care. An electronic search was conducted using PubMed® with the following parameters: Terms: "early childhood caries", "perinatal", "perinatal oral health", and "early childhood caries prevention"; Fields: all; Limits: within the last 10 years, humans, English, and clinical trials. Papers for review were chosen from the resultant list of 113 articles and from references within selected articles. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Expert Consensus

Rating Scheme for the Strength of the Evidence

Not applicable

Methods Used to Analyze the Evidence

Review

Review of Published Meta-Analyses

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

The oral health policies and clinical guidelines of the American Academy of Pediatric Dentistry (AAPD) are developed under the direction of the Board of Trustees (BOT), utilizing the resources and expertise of its membership operating through the Council on Clinical Affairs (CCA).

Proposals to develop or modify policies and guidelines may originate from 4 sources:

1. The officers or trustees acting at any meeting of the BOT
2. A council, committee, or task force in its report to the BOT
3. Any member of the AAPD who submits a written request to the BOT as per the AAPD Administrative Policy and Procedure Manual, Section 9
4. Officers, trustees, council and committee chairs, or other participants at the AAPD's Annual Strategic Planning Session

Regardless of the source, proposals are considered carefully, and those deemed sufficiently meritorious by a majority vote of the BOT are referred to the CCA for development or review/revision.

Once a charge (directive from the BOT) for development or review/revision of an oral health policy or clinical guideline is sent to the CCA, it is assigned to 1 or more members of the CCA for completion. CCA members are instructed to follow the specified format for a policy or guideline. Oral health policies and clinical guidelines utilize 2 sources of evidence: the scientific literature and experts in the field. CCA, in collaboration with the Council on Scientific Affairs, performs a comprehensive literature review for each document. When scientific data do not appear conclusive, experts may be consulted.

The CCA meets on an interim basis to discuss proposed oral health policies and clinical guidelines. Each new or reviewed/revised policy and guideline is discussed, amended if necessary, and confirmed by the entire council.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Peer Review

Description of Method of Guideline Validation

Once developed by the Council on Clinical Affairs (CCA), the proposed policy or guideline is submitted for the consideration of the Board of

Trustees. While the Board may request revision, in which case it is returned to the council for modification, once accepted by majority vote of the Board, it is referred for Reference Committee hearing at the upcoming Annual Session. The Reference Committee hearing is an open forum for the membership to provide comment or suggestion for alteration of the document. CCA carefully considers all remarks presented at the Reference Committee hearing prior to submitting its final document for ratification by a majority vote of the membership present and voting at the General Assembly. If accepted by the General Assembly, either as proposed or as amended by that body, the document then becomes the official American Academy of Pediatric Dentistry (AAPD) oral health policy or clinical guideline for publication in the AAPD's Reference Manual and on the AAPD's website.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated for each recommendation.

When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

- Determining those mothers at highest risk for transferring cariogenic bacteria to their children improves opportunities for preventive intervention.
- The primary goal of perinatal oral health care, with regard to caries transmission, is to lower the numbers of cariogenic bacteria in an expectant mother's mouth so that mutans streptococci (MS) colonization of the infant can be delayed as long as possible.
- Timely delivery of educational information and preventive therapies to these parents can reduce the incidence of early childhood caries (ECC), prevent the need for dental rehabilitation, and improve the oral health of their children.

Potential Harms

- Since mercury vapor released during removal and placement of amalgam restoration may be absorbed into the blood stream and cross the placental barrier, the use of rubber dam and high speed evacuation is recommended.
- The consequences of not treating an active infection during pregnancy outweigh the possible risks presented by most of the medications required for dental treatment.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Chart Documentation/Checklists/Forms

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

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Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2009 (revised 2011)

Guideline Developer(s)

American Academy of Pediatric Dentistry - Professional Association

Source(s) of Funding

American Academy of Pediatric Dentistry

Guideline Committee

Council on Clinical Affairs

Composition of Group That Authored the Guideline

Not stated

Financial Disclosures/Conflicts of Interest

Council members and consultants derive no financial compensation from the American Academy of Pediatric Dentistry (AAPD) for their participation and are asked to disclose potential conflicts of interest.

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Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) from the [American Academy of Pediatric Dentistry Web site](#)

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Print copies: Available from the American Academy of Pediatric Dentistry, 211 East Chicago Avenue, Suite 700, Chicago, Illinois 60611.

Availability of Companion Documents

Information about the American Academy of Pediatric Dentistry (AAPD) mission and guideline development process is available on the [AAPD Web site](#) .

The American Academy of Pediatric Dentistry Caries-Risk Assessment Tool (CAT) is also available for download from the [AAPD Web site](#)

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Patient Resources

None available

NGC Status

This summary was completed by ECRI Institute on February 23, 2010. The information was verified by the guideline developer on March 22, 2010. This NGC summary was updated by ECRI Institute on January 19, 2012.

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